

The Irish Analytic Pavement Design Method (IAPDM)

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Presentation Overview

- Circular Economy Action Plan
- Development of the IAPDM
- Implications of the IAPDM
- IAPDM Software Demonstration

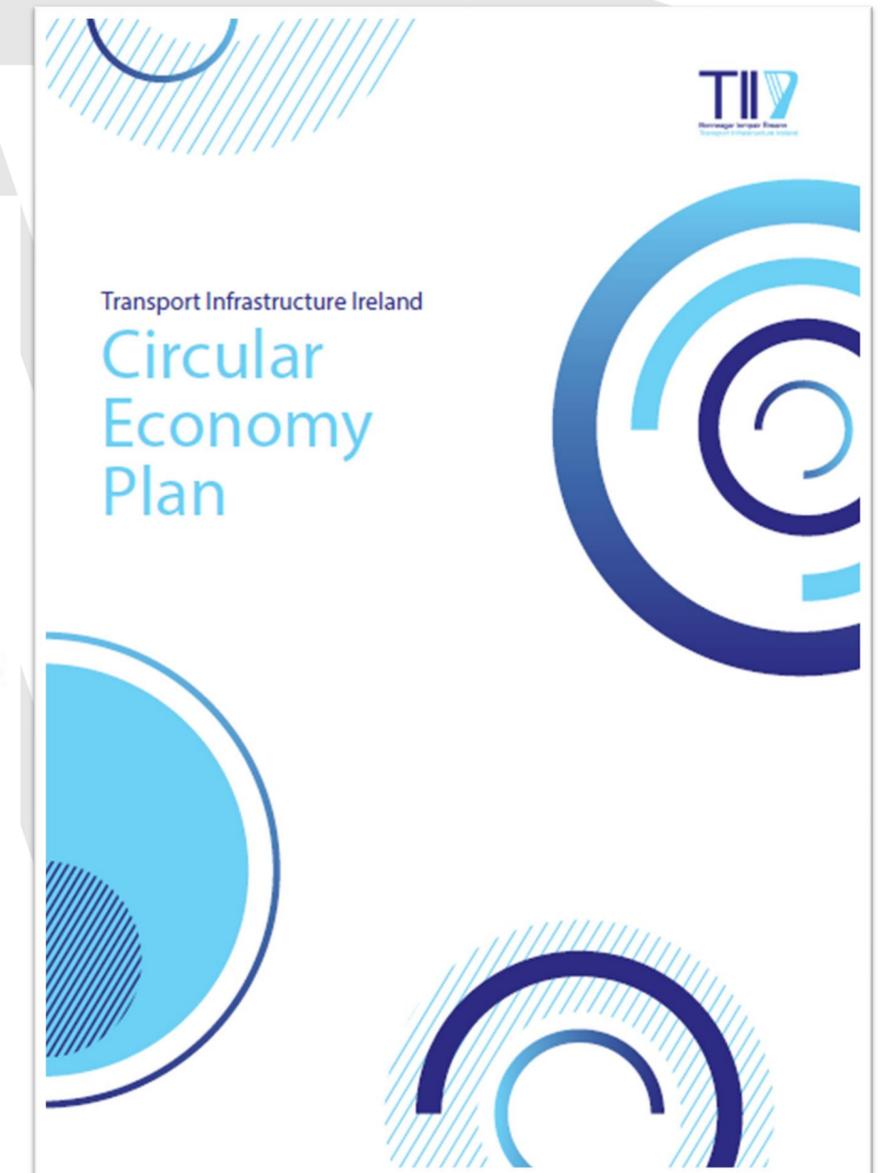
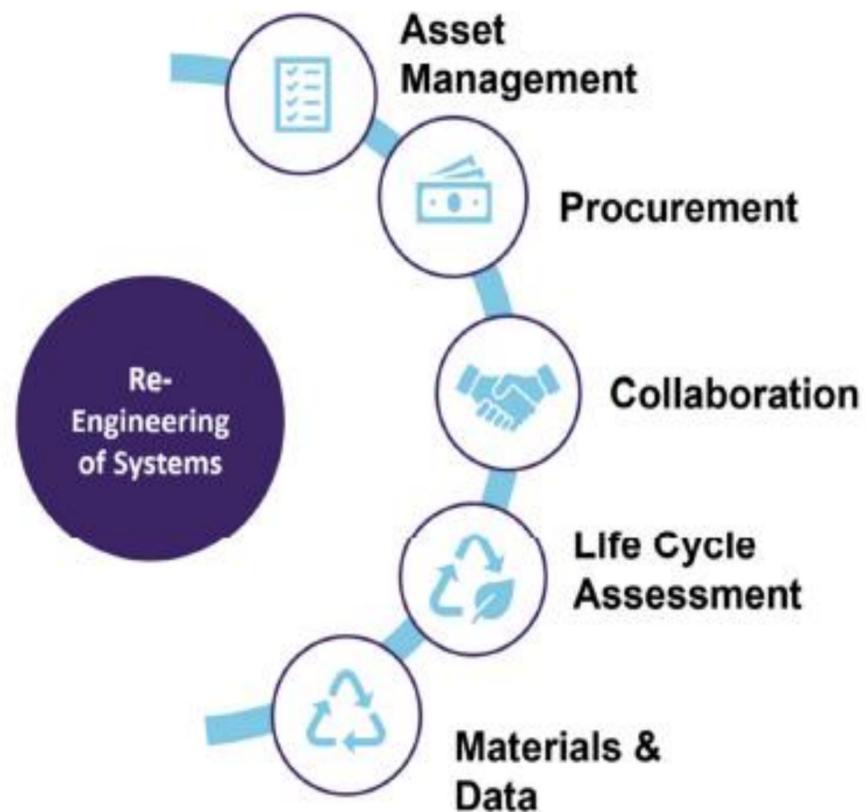


Circular Economy Action Plan

An economy which is restorative and regenerative by design and which aims to keep asset components and materials at their highest utility and value at all times.

Sweating of assets

Taking a life cycle approach to all assets

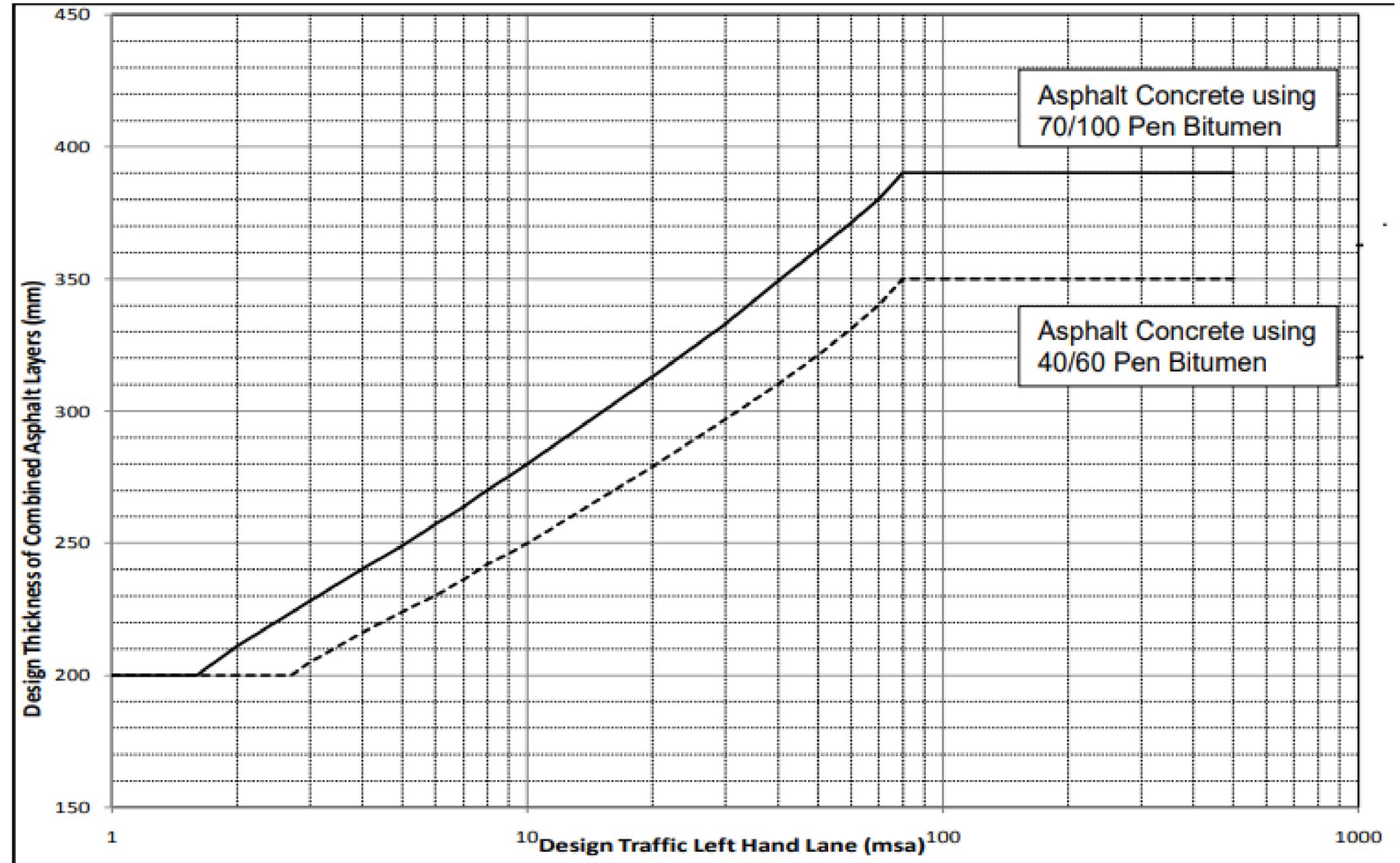


Circular Economy Action Plan

- Pavement materials are one of the most significant assets in terms resource use across the road asset's lifecycle.
- Pavement design:
 - Optimise material use for both new and existing pavements
 - Re-use/recycled materials, innovative new products
 - Data-based
- Life cycle analysis / assessment:
 - Option selection not only on agency costs
 - Consider environmental and user costs

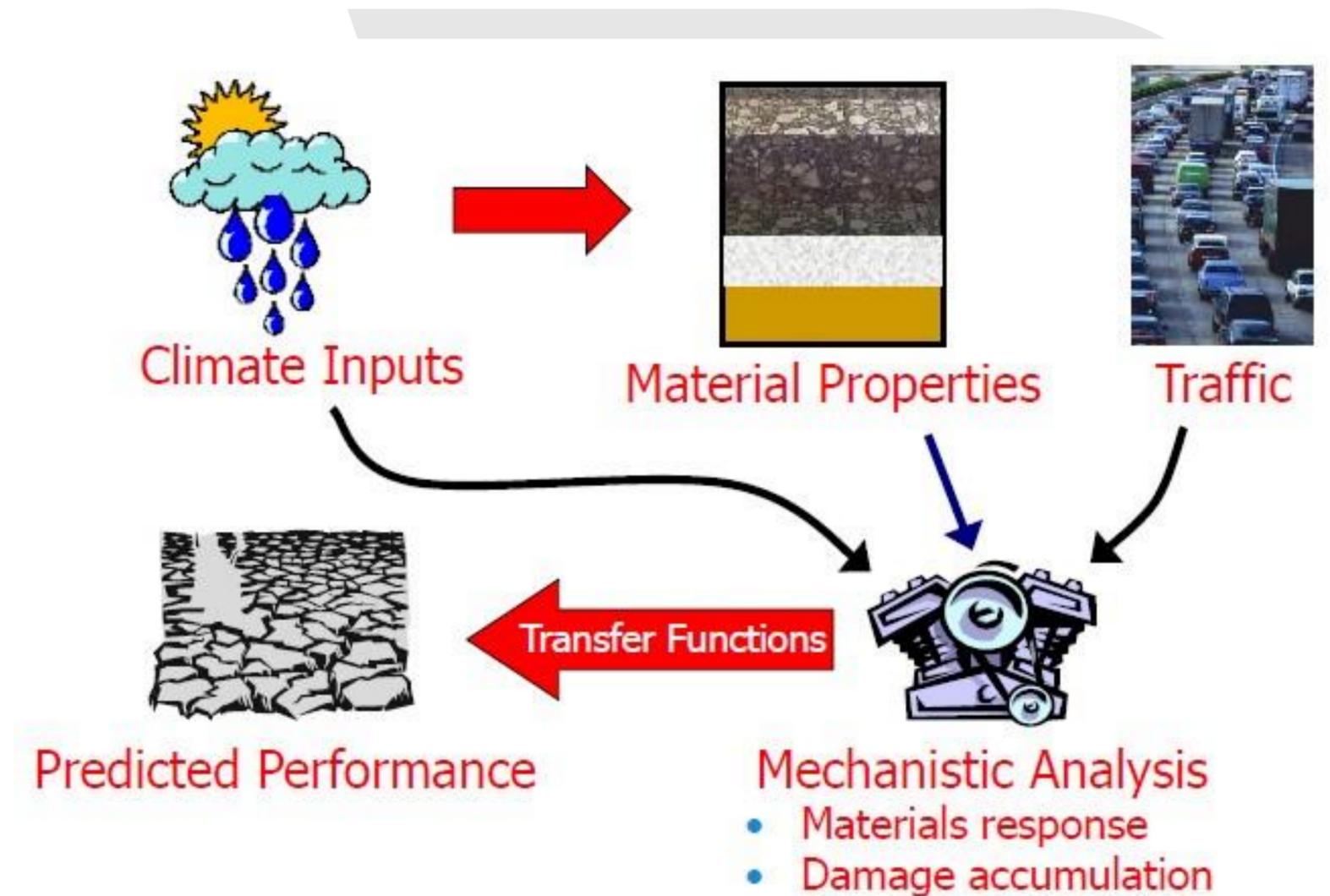
Circular Economy Action Plan

- Why do we need change?
- DN-PAV-03021:
 - TRL Report LR1132 (1984)
 - TRL Report 615 (2004)
- Restricted materials
- Materials, production and construction from 38 years ago



Development of the IAPDM

- Mechanistic-Empirical Pavement Design
- United States, Netherlands, France, Austria
- Material performance characteristics
- Irish environmental and loading conditions
- Long term performance e.g. cracking, deformation



Development of the IAPDM

- IAPDM models risk of pavement failure.



Development of the IAPDM

- Model calibration through laboratory investigations

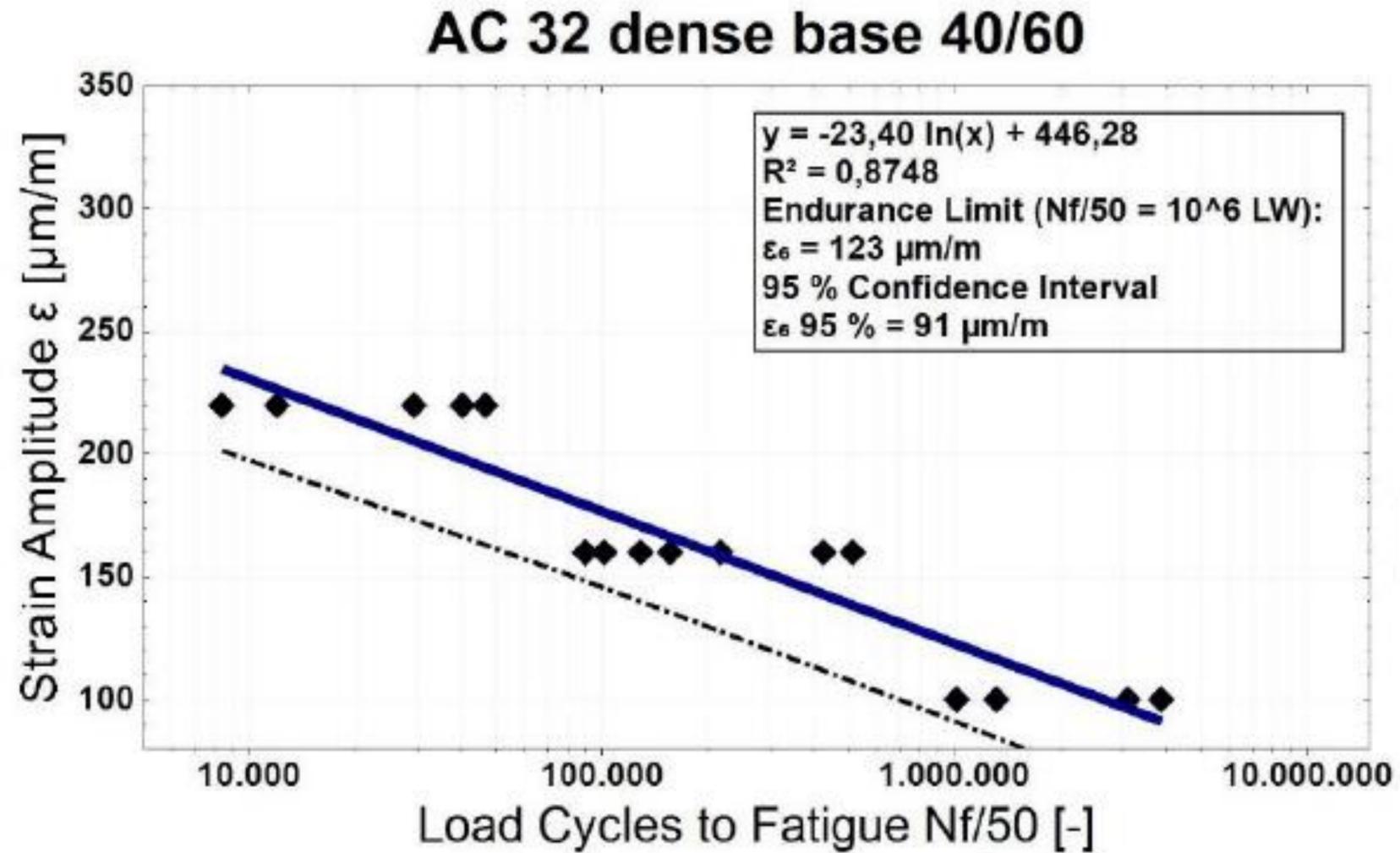
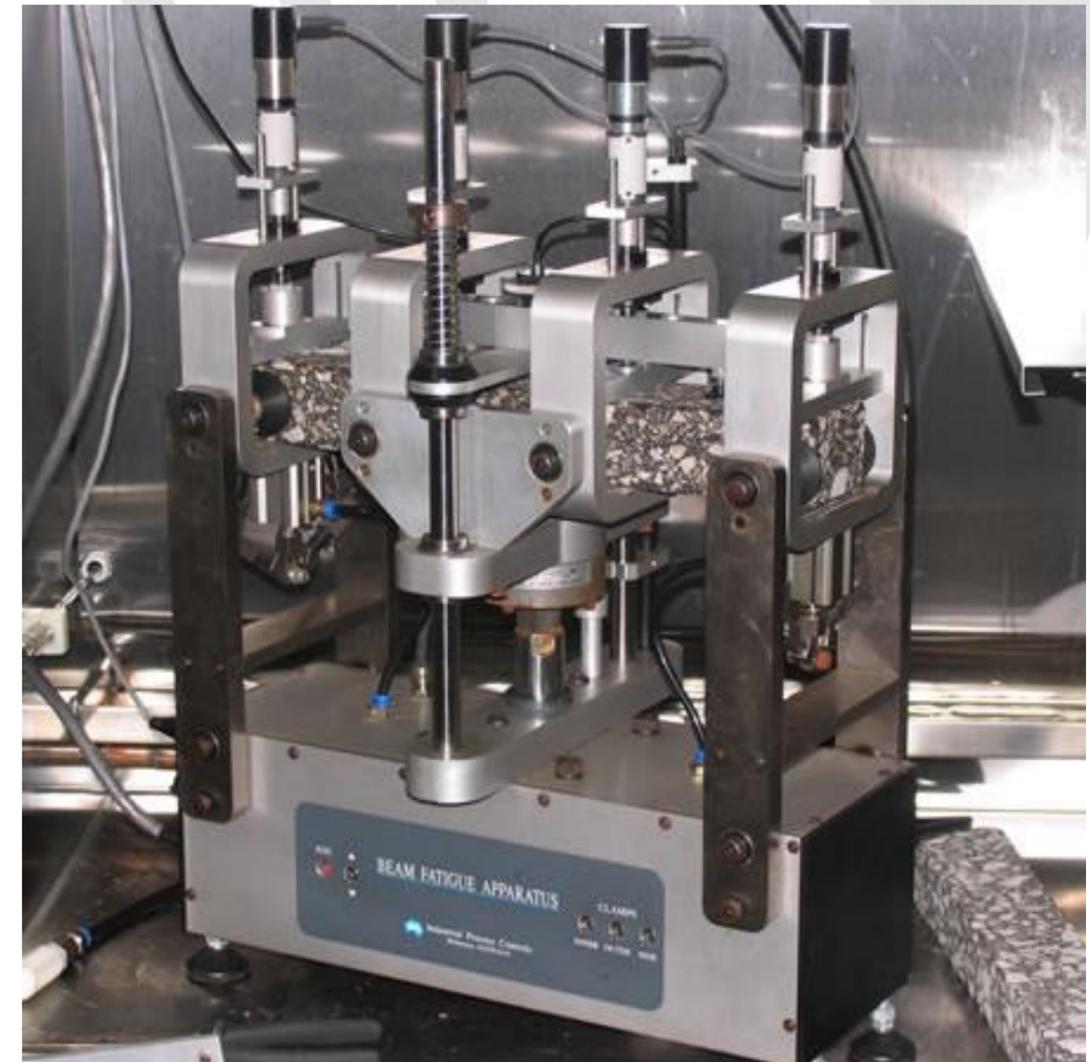


Figure 11: Fatigue results of AC 32 dense base 40/60



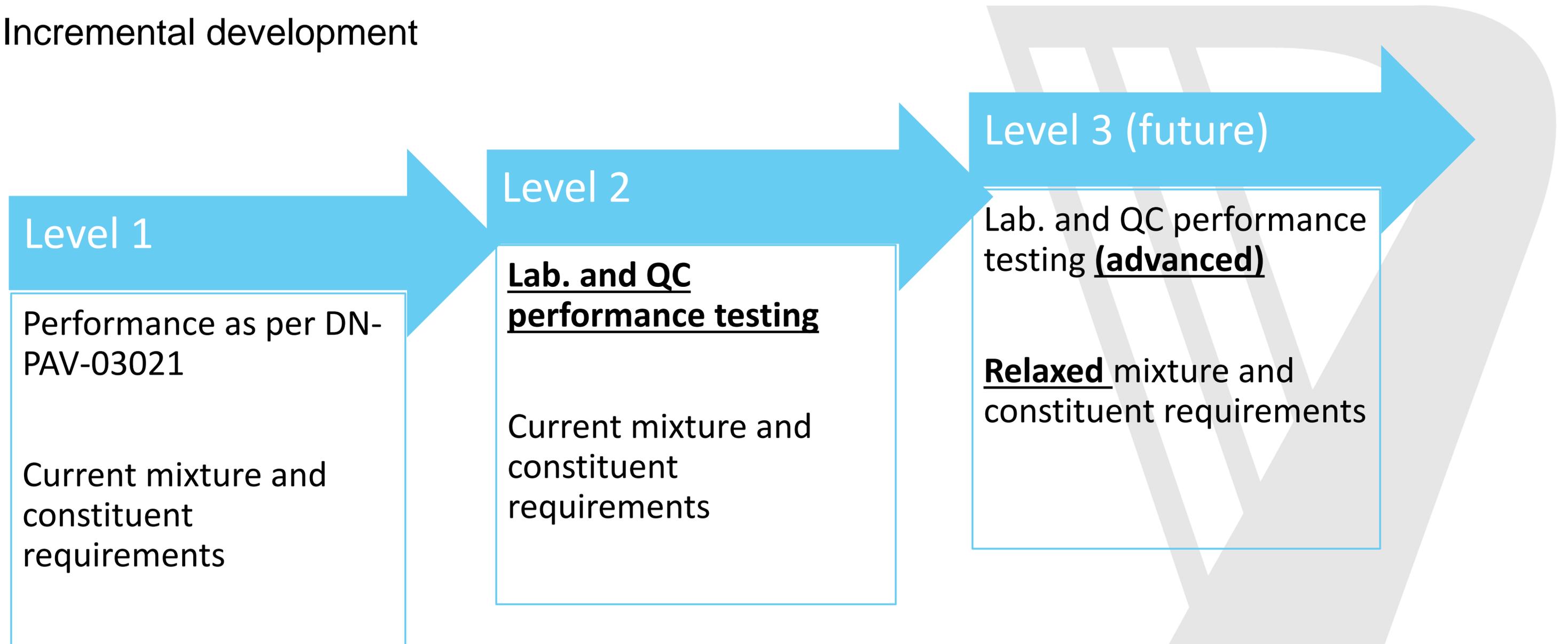
Development of the IAPDM

- Model calibration through field investigations.



Development of the IAPDM

- Incremental development



Development of the IAPDM

- Design models within web-based software.

☰ TII Irish Analytic Pavement Design Method

Hi, Alan Lynch 

 Project Dashboard

 New Project / Design

 Aggregate Register

 Materials Database

 Help

 Feedback

Dashboard & Search

PROJECTS

3

Projects Created by You

DESIGNS

18

Designs Created by You

Your Projects 1 active projects

Projects

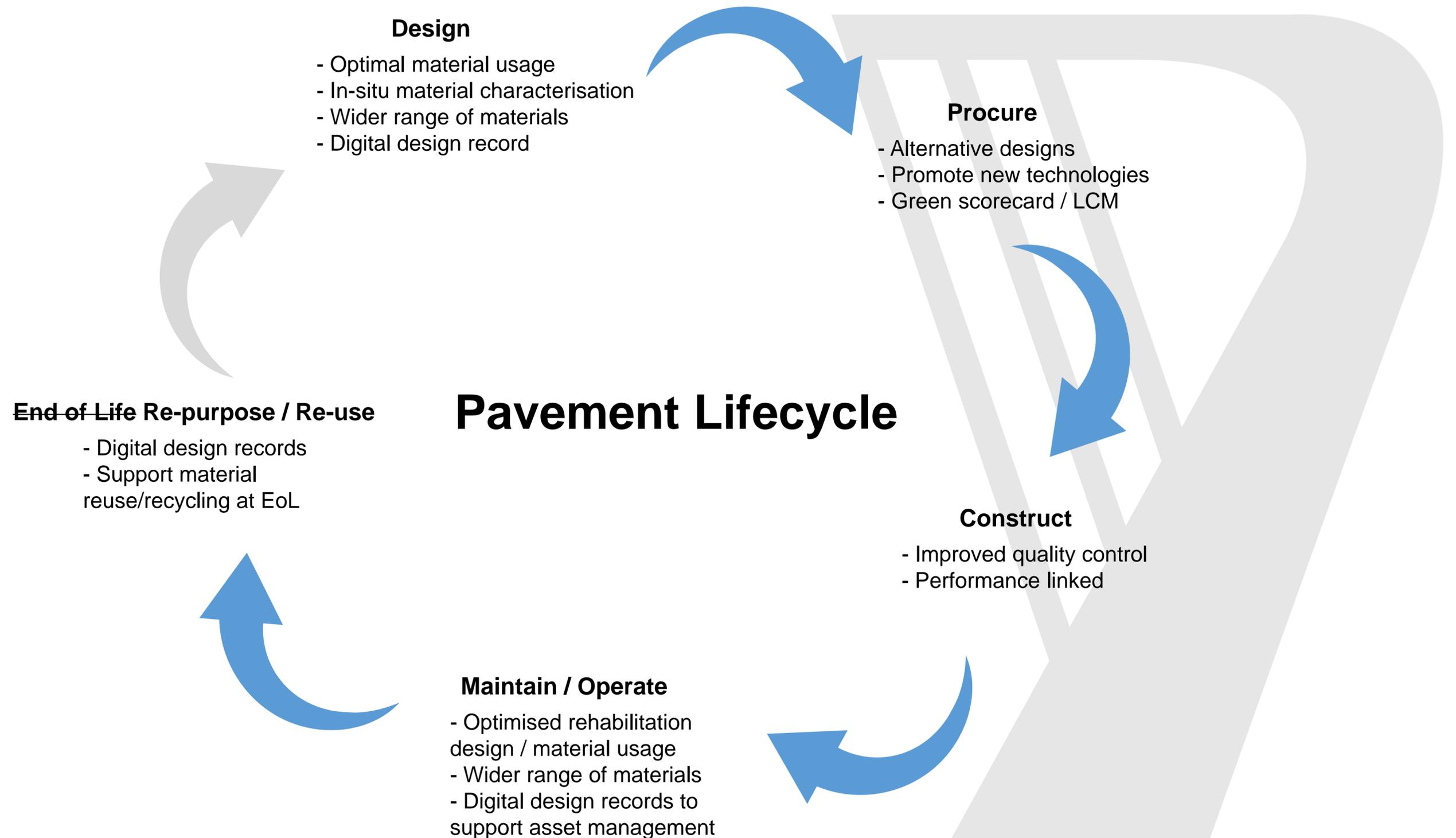
Name	Code	Designs	Status	
N5 Turlough to Westport Road Project	001	2	Active	<button>Edit</button>
test	01	3	Closed	<button>View</button>
IAPDM Layer Stiffness Sensitivity Analysis	0001	13	Closed	<button>View</button>

Development of the IAPDM

- Industry wide consultation and trialling
- DoT, NRDOs, Local Authorities
- Contractors and material producers
- Consultants
- Generally positive comments



Implications of IAPDM





Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Questions and Answers